Draft Decision

ActewAGL distribution determination

2015–16 to 2018–19

Attachment 1: Annual revenue requirement

November 2014

AUSTRALIAN
ENERGY
REGULATOR

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Note

This attachment forms part of the AER's draft decision on ActewAGL’s 2015–19 distribution determination. It should be read with other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Value of imputation credits

Attachment 5 – Regulatory depreciation

Attachment 6 – Capital expenditure

Attachment 7 – Operating expenditure

Attachment 8 – Corporate income tax

Attachment 9 – Efficiency benefit sharing scheme

Attachment 10 – Capital expenditure sharing scheme

Attachment 11 – Service target performance incentive scheme

Attachment 12 – Demand management incentive scheme

Attachment 13 – Classification of services

Attachment 14 – Control mechanism

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Shortened forms

Shortened form	Extended form
AARR	aggregate annual revenue requirement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ASRR	aggregate service revenue requirement
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
CPI-X	consumer price index minus X
DRP	debt risk premium
DMIA	demand management innovation allowance
DMIS	demand management incentive scheme
distributor	distribution network service provider
DUoS	distribution use of system
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
expenditure assessment guideline	expenditure forecast assessment guideline for electricity distribution
F&A	framework and approach
MRP	market risk premium

Shortened form	Extended form
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider
opex	operating expenditure
PPI	partial performance indicators
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
repex	replacement expenditure
RFM	roll forward model
RIN	regulatory information notice
RPP	revenue pricing principles
SAIDI	system average interruption duration index
SAIFI	system average interruption frequency index
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
WACC	weighted average cost of capital

1 Annual revenue requirement

The annual revenue requirement (ARR) is the amount that ActewAGL can recover from the provision of standard control services for each year of the regulatory control period. It is the sum of the various building block costs for each year of that period before smoothing. The ARRs are smoothed across the period to reduce fluctuations between years and to determine expected revenues for each year. These expected revenues are the amounts that ActewAGL will target for annual pricing purposes. This attachment sets out our draft decision on ActewAGL's ARRs and expected revenues for the 2014–19 period and expected revenues for the 2015–19 regulatory control period.

1.1 Draft decision

We do not accept ActewAGL's proposed total revenue requirements[1] of $877.7 million and $184.6million ($ nominal) over the 2014–19 period for its distribution and transmission networks respectively. For the reasons discussed in the attachments to this draft determination, our decisions on ActewAGL's proposed building block costs have a consequential impact on its ARR.

We determine total revenue requirements for the 2014–19 period, reflecting our draft decision on the various building block costs, of:

- $633.3million ($ nominal) for ActewAGL's distribution network. This is a reduction of $244.4 million ($ nominal) or 28 per cent to ActewAGL's proposal.

- $127.5 million ($ nominal) for ActewAGL's transmission network. This is a reduction of $57.0 million or 31 per cent to ActewAGL's proposal.

To account for the placeholder revenues[2] ($145.2 million and $28.1 million for distribution and transmission networks respectively) for 2014–15 that we approved in our transitional determination, we have calculated the difference to be adjusted between the placeholder revenues and our ARRs ($117.4 and $22.9 respectively) for 2014–15. Our draft decision is that these adjustments amount to $27.7 million[3] and $5.2 million ($nominal) respectively. We have applied these adjustments as part of the smoothing process to establish the annual expected revenue for the 2015–19 regulatory control period.

As a result of our smoothing of the ARRs, our draft decision on the annual expected revenue and X factor (distribution and transmission networks) for each regulatory year of the 2015–19 regulatory control period is set out in Table 1.1 and Table 1.2. Our draft decision is to approve total expected revenues (smoothed) of $477.1 million and $98.5million ($ nominal) for the 2015–19 regulatory control period in relation to ActewAGL's distribution and transmission networks respectively.

Figure 1.1 and Figure 1.2 show the difference between ActewAGL's proposal and our draft decision for the distribution and transmission networks respectively.

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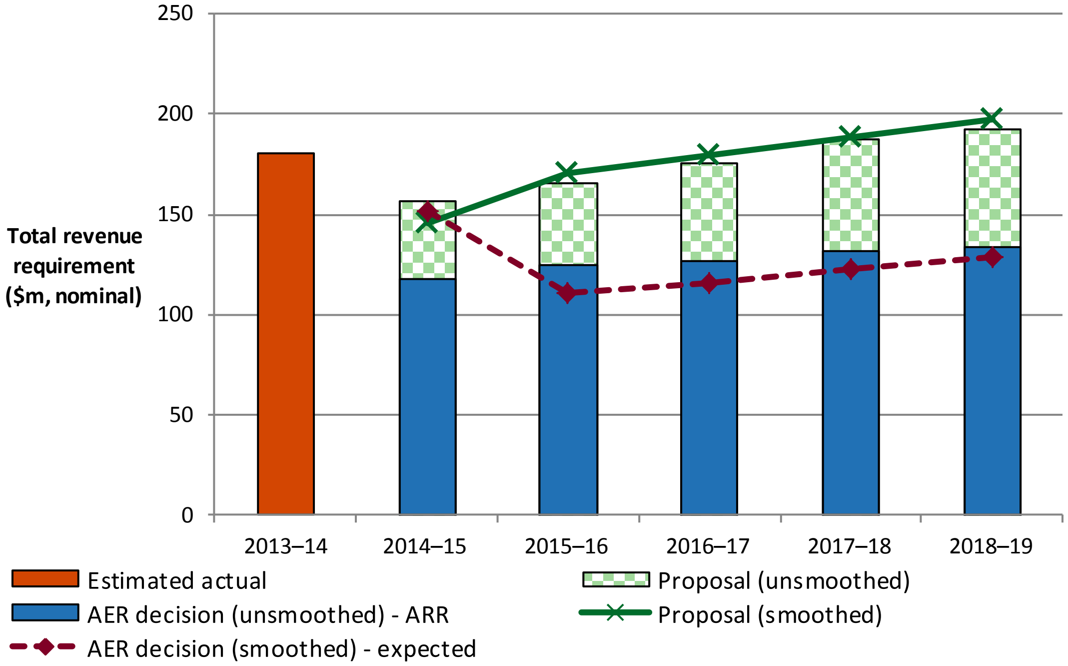
[1] This is referred to in the transitional rules as a 'notional' revenue requirement. We have adopted the standard terminology in chapter 6 to avoid confusion, but it still gives effect to the transitional rules.

[2] AER, *Ausgrid Endeavour Energy Essential Energy ActewAGL, Transitional distribution decision 2014–15*, April 2014, pp. 29-32.

[3] ActewAGL's distribution network adjustment amount of $33.7 million ($ nominal) is comprised of $27.7 million ($ nominal) for differences in transitional revenues and building block costs, and $6.0 million ($ nominal) from the higher revenue calculated from the approved revenue yield cap and higher energy delivered forecast for 2014–15.

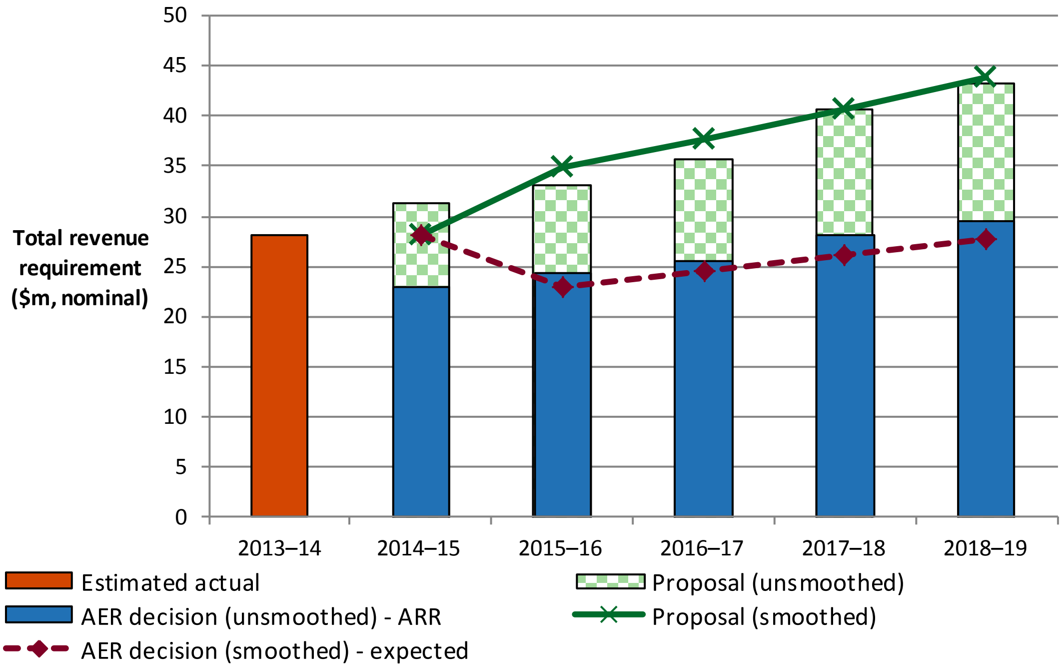
Figure 1.1 AER's draft decision on ActewAGL's revenues for the 2014–19 period – distribution[a] ($million, nominal)



Source: ActewAGL, *Regulatory proposal*, July 2014, Attachment B2.
AER analysis.

(a) ActewAGL's distribution network estimated actual revenue for 2013–14 is calculated based on the RAB share attributable to ActewAGL's distribution RAB.

Figure 1.2 AER's draft decision on ActewAGL's revenues for the 2014–19 period – transmission[a] ($million, nominal)



Source: ActewAGL, *Regulatory proposal*, July 2014, Attachment B5.
AER analysis.

(a) ActewAGL's transmission network estimated actual revenue for 2013–14 is calculated based on the RAB share attributable to ActewAGL's transmission RAB.

Table 1.1 and Table 1.2 show our draft decision on the building block costs and the calculation of the ARR, annual expected revenue and X factor for each year of the 2014–19 period for ActewAGL's distribution and transmission networks respectively.

Table 1.1 AER's draft decision on ActewAGL's revenues for the 2014–19 period – distribution ($million, nominal)

	2014–15	2015–16	2016–17	2017–18	2018–19	Total
Return on capital	47.9	49.6	50.2	50.8	51.2	249.7
Regulatory depreciation	27.0	30.3	30.6	32.0	31.9	151.8
Operating expenditure	36.8	38.3	40.0	41.7	43.6	200.4
Efficiency benefit sharing scheme (carryover amounts)	0.0	0.0	0.0	0.0	0.0	0.0
Net tax allowance	5.8	6.1	5.8	6.7	7.1	31.4
Annual revenue requirement (unsmoothed)	117.4	124.3	126.7	131.2	133.7	633.3
Energy forecast (MWh)	2849471	2848637	2874024	2915538	2954598	n/a
Revenue yield ($/MWh)	53.0	38.7	40.3	41.9	43.6	n/a
Annual expected revenue (smoothed)	**151.1**	**110.3**	**115.8**	**122.2**	**128.8**	**628.3**
X factor	19.59%	28.78%	–1.50%[a]	–1.50%[a]	–1.50%[a]	n/a

Source: AER analysis.
(a) The X factor will be revised to reflect the annual return on debt update.

Table 1.2 AER's draft decision on ActewAGL's revenues for the 2014–19 period – transmission ($million, nominal)

	2014–15	2015–16	2016–17	2017–18	2018–19	Total
Return on capital	10.6	11.0	11.3	12.2	12.7	57.7
Regulatory depreciation	4.2	4.9	5.1	5.4	5.6	25.2
Operating expenditure	7.3	7.7	8.1	8.4	8.7	40.2
Efficiency benefit sharing scheme (carryover amounts)	0.0	0.0	0.0	0.0	0.0	0.0
Net tax allowance	0.8	0.8	0.8	1.0	1.0	4.4
Annual revenue requirement (unsmoothed)	22.9	24.4	25.3	27.0	27.9	127.5
Annual expected revenue (smoothed)	**28.1**	**22.8**	**24.0**	**25.2**	**26.5**	**126.6**
X factor	2.02%	20.69%	–2.50%[a]	–2.50%[a]	–2.50%[a]	n/a

Source: AER analysis.
(a) The X factor will be revised to reflect the annual return on debt update.

1.2 ActewAGL's proposal

ActewAGL proposed a total revenue requirement over the 2014–19 period of $877.7 million ($ nominal) for its distribution network and $184.6 million ($ nominal) for its transmission network. Table 1.3 and Table 1.4 show ActewAGL's proposed building block costs and the calculation of the ARRs, and expected revenues for each year of the 2014–19 period.

Table 1.3 ActewAGL's proposed revenues for the 2014–19 period ($million, nominal) – distribution

	2014–15	2015–16	2016–17	2017–18	2018–19	Total
Return on capital	62.6	66.3	68.8	71.3	73.6	342.6
Regulatory depreciation	27.0	30.6	31.2	32.6	32.7	154.1
Operating expenditure	66.7	66.8	66.7	70.7	74.1	344.9
Efficiency benefit sharing scheme (carryover amounts)	–9.6	–8.5	–1.5	1.9	0.0	–17.7
Net tax allowance	9.8	10.4	10.4	11.5	12.1	53.7
Annual revenue requirement (unsmoothed)	156.4	165.6	175.3	187.9	192.5	877.7
Energy forecast (MWh)	2736688	2729815	2761282	2790890	2803657	n/a
Revenue yield ($/MWh)	53.0	62.4	64.9	67.5	70.3	n/a
Annual expected revenue (smoothed)[a]	**145.2**	**170.25**	**179.21**	**188.5**	**197.0**	**880.15**
X factor	19.59%	–14.66%	–1.50%	–1.50%	–1.50%	n/a

Source: ActewAGL, *Regulatory proposal*, July 2014, Attachment B2.

(a) ActewAGL's proposed annual expected revenue included a true-up adjustment for the difference between its proposed annual revenue requirement ($156.4 million) in 2014–15 and the transitional decision revenue ($145.2 million). ActewAGL proposed to recover the higher revenues through future smoothed revenues for the 2015–19 regulatory control period.

Table 1.4 ActewAGL's proposed revenues for the 2014–19 period ($million, nominal) – transmission

	2014–15	2015–16	2016–17	2017–18	2018–19	Total
Return on capital	13.9	14.5	15.7	18.5	20.4	80.0
Regulatory depreciation	4.2	5.0	5.2	5.6	5.8	25.9
Operating expenditure	13.3	13.4	13.4	14.3	14.9	69.3
Efficiency benefit sharing scheme (carryover amounts)	–1.4	–1.2	–0.2	0.3	0.0	–2.6
Net tax allowance	1.5	1.6	1.7	2.0	2.2	9.0
Annual revenue requirement (unsmoothed)	31.4	33.2	35.8	40.8	43.2	184.6
Annual expected revenue (smoothed)[a]	**28.1**	**34.9**	**37.7**	**40.6**	**43.8**	**185.1**
X factor	2.02%	–21.22%	–5.22%	–5.22%	–5.22%	n/a

Source: ActewAGL, *Regulatory proposal*, July 2014, Attachment B5.

(a) ActewAGL's proposed annual expected revenue included a true-up adjustment for the difference between its proposed annual revenue requirement ($31.4 million) in 2014–15 and the transitional decision revenue ($28.1 million). ActewAGL proposed to recover the higher revenues through future smoothed revenues for the 2015–19 regulatory control period.

1.3 AER's assessment approach

We are required to determine the ARR for ActewAGL for each regulatory year of the 2014–19 period.[4] The process for determining ActewAGL's total revenue requirement for the 2014–19 period is affected by the transitional rules that apply to this determination. We previously approved amounts of $145.2 million and $28.1 million as the placeholder revenues for 2014–15 in relation to ActewAGL's distribution and transmission networks respectively,[5] until a full assessment of costs for the 2014–15 year could be carried out in the current determination.

In this determination we first calculate ARRs for each year of the 2014–19 period, including the 2014–15 transitional year. To do this we consider the various costs facing the service provider and the trade-offs and interactions between these costs, service quality and across years. This reflects the AER's holistic assessment of the service provider's proposal.

The ARR for each year is the sum of building block costs. These building block costs are set out in section 1.3.1. The AER's post-tax revenue model (PTRM) brings together these building block costs and calculates the resulting ARRs.

We understand the trade-offs that occur between building block costs and test the sensitivity of these costs to their various driver elements. These trade-offs are discussed in the interrelationships section of the various attachments to this draft decision and are reflected in the calculations made in the PTRM developed by the AER.[6] Such understanding allows the AER to exercise judgement in determining the final inputs into the PTRM and the ARRs that result from this modelling.

The difference between the ARR we determine for 2014–15 and our previously determined placeholder revenue gives rise to the required true-up adjustment amount under the transitional rules.[7] The true-up adjustment amount is applied as part of smoothing the ARRs to establish the annual expected revenue for each year of the 2015–19 regulatory control period.

Having determined the total revenue requirement for the 2014–19 period, the ARRs for each regulatory year are smoothed across the 2015–19 regulatory control period to reduce revenue variations between years and to come up with the expected revenue for each year.[8] This is done through the determination of the X factors and the application of our true-up adjustment.[9] The X factor must equalise (in net present value terms) the total expected revenues to be earned by the service

4 NER, cl 6.2.3(a)(1).
5 See NER cl 11.56.4 and ActewAGL's placeholder determination for the transitional regulatory control period 2014–15.
6 There are trade-offs that are not modelled in the PTRM but are reflected in the inputs to the PTRM. For example, service quality is not explicitly modelled in the PTRM, but the trade-offs between service quality and price are reflected in the forecast capex and opex inputs to the model. Other trade-offs are obvious from the calculations in the PTRM. For example, while someone may expect a lower regulatory asset base to also lower revenues, the PTRM shows that this will not occur if the reduction in the regulatory asset base is due solely to an increase in the depreciation rate. In such circumstances, revenues increase as the increased depreciation allowance more than offsets the reduction in the return on capital caused by the lower regulatory asset base.
7 NER, cl 11.56.4(h)-(j).
8 For the purposes of operating the PTRM, the X factor has been set in the case of ActewAGL's distribution network. This is because ActewAGL's distribution form of control is a revenue yield which is calculated based on the previous year revenue yield adjusted for the real price change (X factor) and forecast inflation. The revenue yield is then multiplied by the energy forecast for that year to determine the smoothed expected revenue. By setting the X factor for 2014–15 we give effect to the revenue yield cap approved for pricing purposes and allows the transitional placeholder revenue to be adjusted in relation to our decision on ActewAGL's energy forecast for 2014–15.
9 NER, cl 6.5.9(a).

provider with the total revenue requirement for the 2014–19 period.[10] The X factor must usually minimise, as far as reasonably possible, the variance between the expected revenue and ARR for the last regulatory year of the period.[11]

For this draft decision, the expected revenue in the last year of the regulatory control period is not required to be as close as reasonably possible to the ARR for that year, due to the transitional provisions.[12] Typically, we would target a divergence of less than 3 per cent between the expected revenue and ARR for the last year of the regulatory control period, if this can promote smoother price changes over the regulatory control period. However, due to the shortened regulatory control period and the required true-up for 2014–15,[13] we have allowed the divergence in the final year revenues to exceed 3 per cent in certain cases. This helps minimise the prospect of a significant price decrease followed by significant price increases over the 2015–19 regulatory control period. We will review the smoothing for the final decision if necessary.

The building block costs (and the elements that drive those costs) used to determine the unsmoothed ARR are set out below.

1.3.1 The building block costs

The efficient costs to be recovered by a service provider can be thought of as being made up of various building block costs. Our draft decision assesses each of the building block costs and the elements that drive these costs. The building block costs are approved reflecting trade-offs and interactions between the cost elements, service quality and across years. Table 1.5 shows the building block costs that form the ARR for each year and where discussion on the elements that drive these costs can be found within this draft decision.

Table 1.5 Building block costs

Building block costs	Attachments where elements are discussed
Return on capital	Regulatory asset base (attachment 2) Capex (attachment 6) Rate of return (attachment 3)
Regulatory depreciation (return of capital)	Regulatory asset base (attachment 2) Capex (attachment 6) Rate of return (attachment 3)
Operating expenditure (opex)	Opex (attachment 7)
Efficiency benefits/penalties	Efficiency benefit sharing scheme (attachment 9)
Estimated cost of corporate tax	Corporate income tax (attachment 8) Value of imputation credits (attachment 4)

10 NER, cl 6.5.9(3)(i)
11 NER, cl 6.5.9(b)(2).
12 NER, cl 11.58.4(c).
13 The placeholder revenue for 2014–15 is significantly higher than the amount in this draft decision. The relatively small decrease to 2014–15 prices means even larger decreases are needed over the following years. Given the shortened regulatory control period, accounting for this true-up, as well as the revenue reductions in the remaining years, makes smoothing prices more challenging.

1.3.2 Placeholder revenue true-up for 2014–15

The five regulatory years from 2014–19 are split over two regulatory control periods due to the transitional rules.[14] There is a 'transitional regulatory control period' for 2014–15, and a 'subsequent regulatory control period' for 2015–19. We are required to make both a decision on the transitional placeholder revenue for 2014–15 and then a decision on the revenues for the full 2014–19 period.

In April 2014, as required under the transitional rules, we conducted a high level review of ActewAGL's proposed revenue requirement for its transitional regulatory control period (2014–15). We determined placeholder revenue allowances of $145.2 million ($ nominal) for ActewAGL's distribution network and $28.1 million ($ nominal) for ActewAGL's transmission network in the transitional determination.[15] For ActewAGL's distribution network the placeholder revenue was calculated based on the revenue yield for 2014–15 of $53.0 per MWh using an energy throughput forecast of 2736.7 GWh. At the time of the transitional decision we adopted ActewAGL's energy forecast for the purposes of the transitional determination.[16]

In this draft decision, we make a full regulatory determination for the years 2015–16 to 2018–19 for ActewAGL, and we account for any adjustment amount related to the transitional regulatory control period (2014–15). This includes our decision in relation to ActewAGL's energy forecast for 2014–15. We are required to determine the ARRs for each year of the five year period (2014–19) and use a net present value (NPV) neutral true-up mechanism to account for any difference between:[17]

- the placeholder revenue for the transitional regulatory control period, and
- the ARR for 2014–15 that is established through the full determination process.[18]

Our draft decision on the 2014–15 ARRs for ActewAGL's distribution and transmission networks is $117.4 million and $22.9 million ($ nominal) respectively. This means there is a difference in costs recovered in 2014–15 that must be returned to customers. To give effect to the true-up, we have applied separate approaches for ActewAGL's distribution and transmission network arising from differences between the applicable forms of control. For ActewAGL's distribution network we have set the first year X factor to 19.6 per cent in the PTRM, consistent with the transitional determination.[19] This is because the form of control for ActewAGL's distribution network is a revenue yield cap. For ActewAGL's transmission network we have set the first year expected revenue in the PTRM equal to the AER approved placeholder revenue for 2014–15 of $28.1 million because the form of control is a revenue cap.

These are the only practical options as distribution and transmission prices were set for 2014–15 based on the approved placeholder X factor and amount, respectively. However, this practicality also means that the difference in the revenues for 2014–15 between the transitional and full determinations will need to be accounted for in the 2015–19 regulatory control period. That is, the placeholder revenue for 2014–15 established from the transitional determination provide a base from

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14 NER, cll 11.56.3–4.

15 AER, *Ausgrid Endeavour Energy Essential Energy ActewAGL, Transitional distribution decision 2014–15*, April 2014, p. 17.

16 AER, *Ausgrid Endeavour Energy Essential Energy ActewAGL, Transitional distribution decision 2014–15, April 2014, p. 17.*

17 NER, cll 11.564(h)–(i).

18 For ActewAGL's distribution network, our full determination process includes a review of ActewAGL's energy forecast used to determine the smoothed revenues calculated as revenue yield multiplied by the energy forecast for that year. We have determined different energy forecasts for this draft decision. Therefore, the true-up must also account for this, consistent with the revenue yield cap form of control.

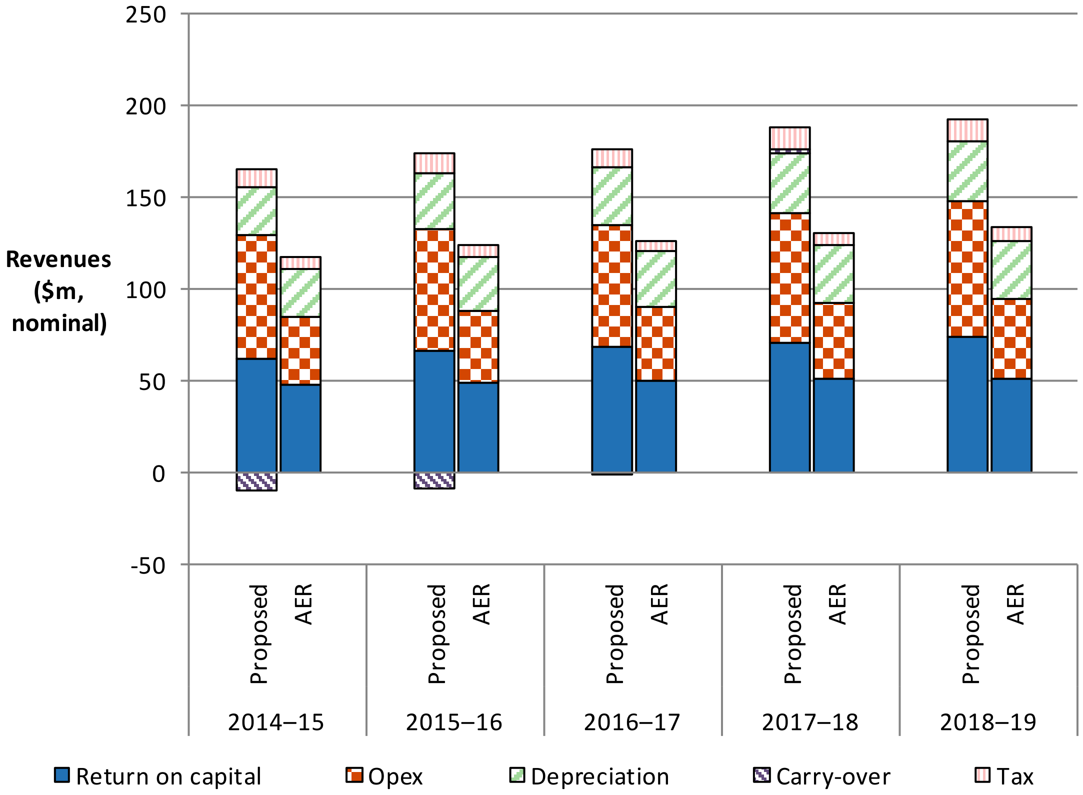
19 The X factor of 19.6 per cent (positive) represents a real decrease from the revenue yield in 2013–14.

which the expected revenues (smoothed) for the remaining four years of the 2014–19 period are calculated through the determination of the X factors for these years. This gives effect to the true-up requirements under the NER and ensures that the differences of $33.7 million for distribution and $5.2 million ($ nominal) for transmission are returned to customers over the 2015–19 subsequent regulatory control period (adjusted for the time value of money). The details of this true-up for ActewAGL is discussed further in section 1.4.1.

1.4 Reasons for draft decision

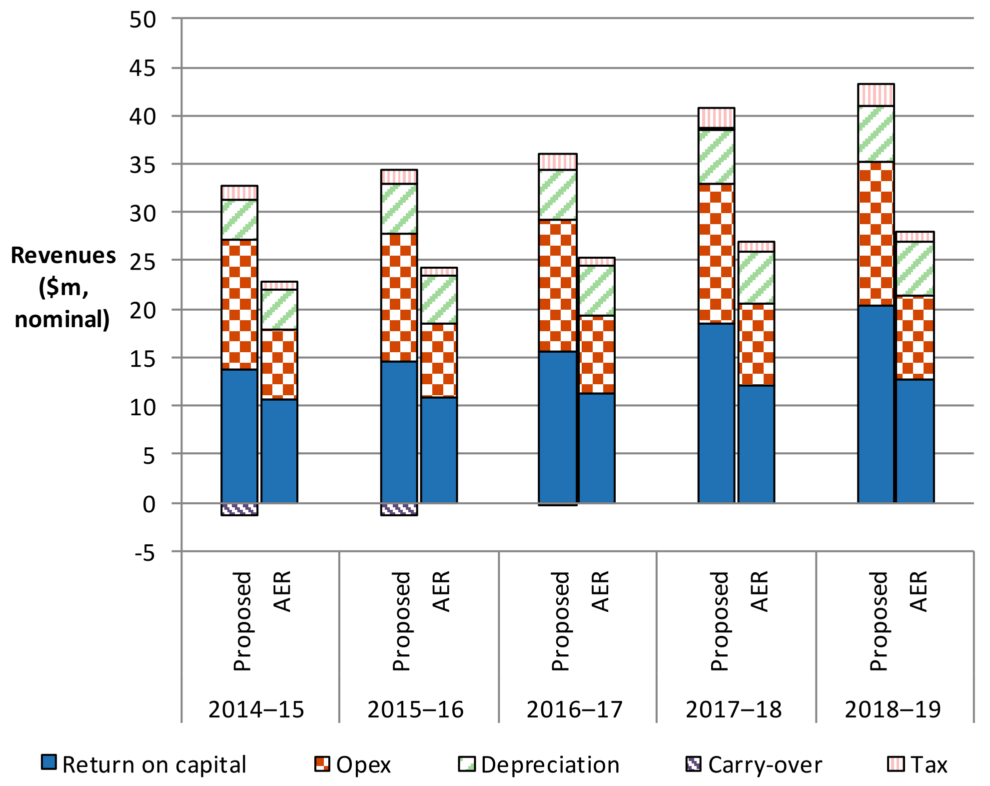
We determine total revenue requirements of $633.3 million and $127.5million ($ nominal) over the 2014–19 period for ActewAGL's distribution and transmission networks respectively. This is $244.4million ($ nominal) or 28 per cent below ActewAGL's proposal for its distribution network and $57.0 million ($ nominal) or 31 per cent below ActewAGL's proposal for its transmission network. These revenues reflect the impact of our draft decision on the various building block costs. Figure 1.3 and Figure 1.4 show the difference between ActewAGL's proposed ARRs and our draft decision for ActewAGL's distribution and transmission networks respectively.

Figure 1.3 AER's draft decision and ActewAGL's proposed annual revenue requirements – distribution ($million, nominal)



Source: AER analysis.

Figure 1.4 **AER's draft decision and ActewAGL's proposed annual revenue requirements – transmission ($million, nominal)**



Source: AER analysis.

The most significant changes to ActewAGL's proposal include: a reduction in the rate of return of 2.1 per cent (attachment 3), a reduction in the capex allowance of 36 per cent (attachment 6), and a reduction in the opex allowance of 42 per cent (attachment 7).

1.4.1 Revenue adjustments for transitional year

We do not accept ActewAGL's proposed true-up approach to use the placeholder revenue for 2014–15 as the base from which to smooth the proposed expected revenues over the 2015–19 period for its distribution network. However, we accept this proposed approach of using the placeholder revenue for 2014–15 as the base from which to smooth the proposed expected revenues over the 2015–19 regulatory control period for its transmission network. We therefore determine two separate true-up adjustments for ActewAGL's distribution and transmission networks to take account of the difference between the placeholder revenue and ARR determined for 2014–15 in this decision, as follows:

- ActewAGL's distribution network—we consider that only the placeholder X factor of 19.6 per cent for the 2014–15 transitional regulatory control period provides the appropriate base from which to smooth the proposed expected revenues over the 2015–19 regulatory control period. ActewAGL's distribution network is regulated under a revenue yield cap form of control. Therefore, in addition to differences in building block costs from this draft decision, our change to the energy forecast for 2014–15 affects the amount of revenue ActewAGL can be expected to earn through prices charged to consumers.

- ActewAGL's transmission network—we consider the placeholder revenue of $28.1 million for the 2014–15 transitional regulatory control period provides the appropriate base from which to smooth the expected revenues over the 2015–19 regulatory control period. This approach is consistent with the revenue cap form of control.

In its transitional regulatory proposal, ActewAGL proposed ARRs of $155.9 million and $30.2 million ($ nominal) for 2014–15, for its distribution and transmission networks respectively.[20] We approved placeholder revenue for 2014–15 of $145.2 million ($ nominal) for ActewAGL's distribution network. We also approved $28.1 million ($ nominal) placeholder revenue that was related to ActewAGL's transmission network. Table 1.6 and Table 1.7 show the proposed and approved placeholder revenues for the 2014–15 transitional regulatory control period for ActewAGL's distribution and transmission networks respectively.

Table 1.6 ActewAGL's proposed transitional placeholder revenue and AER transitional determination for 2014–15 – distribution ($ million, nominal)

	2013-14	2014-15
ActewAGL transitional proposal	180..5	155.9
Change in revenues		–13.6%
AER transitional determination	180.5	145.2
Change in revenues		–19.6%

Source: ActewAGL, *Transitional regulatory proposal*, January 2014, Attachment A1. AER analysis.

Note: The 2013–14 revenues include both distribution and transmission assets. Accordingly a proportion of the decrease in revenues reflects the separation of transmission assets.

Table 1.7 ActewAGL's proposed transitional placeholder revenue and AER transitional determination for 2014–15 – transmission ($ million, nominal)

	2013-14[a]	2014-15
ActewAGL transitional proposal	28.0	30.2
Change in revenues		7.8%
AER transitional determination	28.0	28.1
Change in revenues		0.4%

Source: ActewAGL, *Transitional regulatory proposal*, January 2014, Attachment A2. AER analysis.

(a) This amount has been calculated from the $180.5 million ($nominal) for ActewAGL's combined distribution and transmission networks prior to 2014–15 to reflect the (notional) transmission component of 2013–14 revenue.

Based on the building block costs determined in this decision and taking account of the need to do the true-up for ActewAGL when smoothing the expected revenues over the 2015–19 regulatory control period, we first set the expected revenue for the first regulatory year (2014–15) as follows:

20 ActewAGL, *Transitional regulatory proposal*, January 2014, Attachment A1 and Attachment A2.

- For ActewAGL's distribution network the X factor is set to 19.6 per cent resulting in expected revenue of $151.1 million ($nominal).[21]
- For ActewAGL's transmission network the expected revenue is set to $28.1 million ($nominal).

Applying the above, we calculate differences that are $33.7 million and $5.2 million ($ nominal) higher than the 2014–15 ARRs (unsmoothed) we have determined in this draft decision for ActewAGL's distribution and transmission networks respectively. These differences represent the amounts to be returned to customers over the 2015–19 regulatory control period. We then applied a profile of X factors to determine the expected revenue in subsequent years. This is achieved as part of the smoothing process to determine the appropriate X factors for the 2015–19 regulatory control period.[22]

We consider that our profile of X factors results in an expected revenue in the last year of the regulatory control period that is as close as reasonably possible to the ARR for that year is reasonable given the shortened regulatory control period and the required true-up for 2014–15. In the present circumstances, based on the X factors we have determined for ActewAGL, the difference between the expected revenue and ARR for 2018–19 is around 3.7 per cent and 5.2 per cent for distribution and transmission respectively. While these divergences are significant, the smoothing avoids the situation of a larger price decrease in 2015–16 followed by significant price increases for the remaining three years of the regulatory control period. We will review this smoothing for the final decision if necessary.

Table 1.8 and Table 1.9 show the expected revenues (smoothed) of ActewAGL's proposal and our draft decision expected revenues (smoothed) for ActewAGL's distribution and transmission networks respectively. Both use the 2014–15 placeholder revenues as a base to account for the proposed/determined true-ups.

Table 1.8 ActewAGL's adjusted and AER's draft decision smoothed expected revenues for the 2014–19 period – distribution ($million, nominal)

	2014–15	2015–16	2016–17	2017–18	2018–19
ActewAGL's proposal	145.2	170.2	179.2	188.5	197.0
X factor	19.59%	–14.66%	–1.50%	–1.50%	–1.50%
AER draft decision	151.1[a]	110.3	115.8	122.2	128.8
X factor	19.59%	28.78%	–1.50%	–1.50%	–1.50%

Source: ActewAGL, *Regulatory proposal*, July 2014, Attachment B2.
AER analysis.

(a) The 2014–15 smoothed expected revenue has been adjusted to reflect our decision on the substitute energy forecasts, consistent with the revenue yield cap form of control.

21 ActewAGL's form of control applying to its distribution network is a revenue yield cap (or average revenue cap). The smoothed expected revenue is determined through adjusting the revenue yield for the previous year by the X factor and forecast inflation, and multiplied by the energy forecast for that year. We set the 2014–15 X factor to give effect to the revenue yield cap consistent with the form of control used in the annual pricing approval process. Applying the energy forecast determined in this decision results in an updated revenue amount from transitional determination of $145.2 million.

22 This also accounts for the time value of money.

Table 1.9 ActewAGL's adjusted and AER's draft decision smoothed expected revenues for the 2014–19 period – transmission ($million, nominal)

	2014–15	2015–16	2016–17	2017–18	2018–19
ActewAGL's adjusted proposal	28.1	34.9	37.7	40.6	43.8
X factor	2.02%	–21.22%	–5.22%	–5.22%	–5.22%
AER draft decision	28.1	22.8	24.0	25.2	26.5
X factor	2.02%	20.69%	–2.50%	–2.50%	–2.50%

Source: ActewAGL, *Regulatory proposal*, July 2014, Attachment B5.
AER analysis.

(a) ActewAGL's proposed smoothed expected revenue for 2015–19 has been adjusted for the proposed true up adjustment of $3.3 million for 2014–15.

1.4.2 Indicative average distribution price impact

Our draft decision on ActewAGL's expected revenues ultimately affects the prices consumers pay for electricity. There are several steps required to translate our revenue decision to an ultimate price impact, and the steps are different depending on the network component:

- For ActewAGL's distribution assets, we are regulating standard control services under a revenue yield cap form of control. Revenue yield means that ActewAGL's revenue is set as a function of total consumption of electricity. Under the revenue yield cap, changes in the total consumption of electricity will not affect the prices ultimately charged to consumers. We are not required to establish distribution prices for ActewAGL as part of this determination. However, we will assess ActewAGL's annual pricing proposals before the commencement of the remaining regulatory years for the 2014–19 period based on this distribution determination.

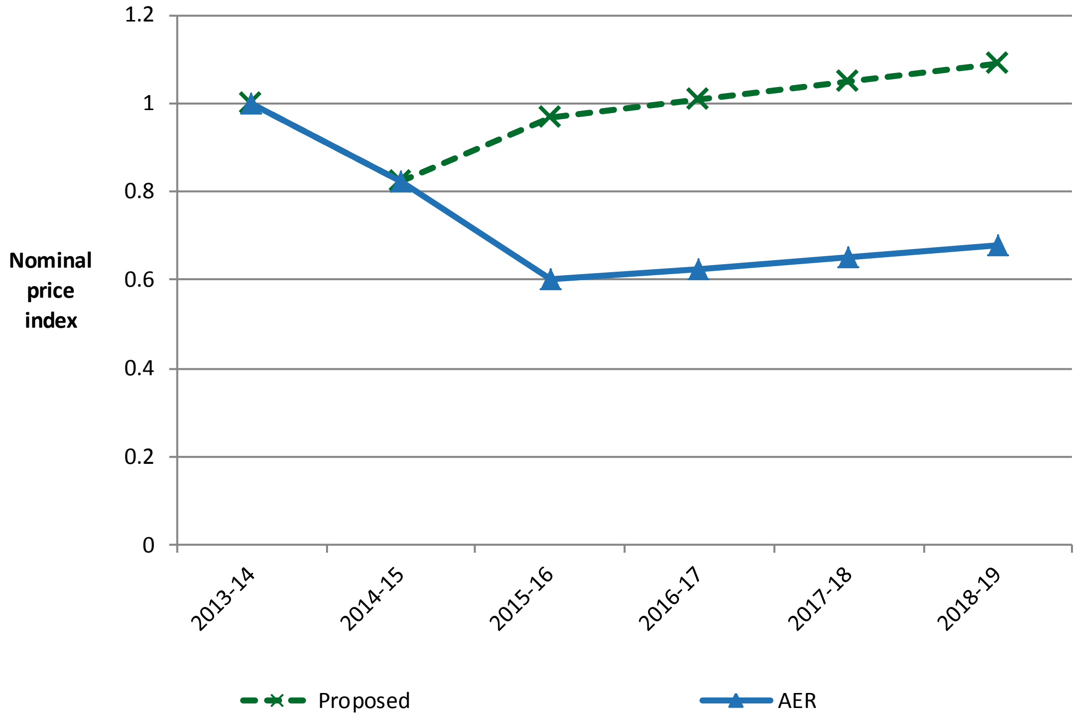
- For ActewAGL's transmission assets, we are regulating standard control services under a revenue cap. This means the adjustments that we have made to ActewAGL's expected revenues do not directly translate to price impacts. This is because ActewAGL's revenue is fixed under the revenue cap form of control, so changes in the consumption of electricity will affect the prices ultimately charged to consumers. Further, transmission charges are collected with regard to the entire transmission network across NSW/ACT, since the ActewAGL transmission assets are a small, embedded component of the broader transmission network. TransGrid, which is the coordinating TNSP for this network region, establishes transmission charges and then provides ActewAGL with its portion of revenues.

For this draft decision, we have estimated some indicative average distribution and transmission price impacts flowing from our determination on the expected revenues for ActewAGL over the 2014–19 period. Figure 1.5 and Figure 1.6 show ActewAGL's indicative price paths (distribution and transmission) based on the expected revenues established in our draft decision compared to its proposal. For ActewAGL's distribution network and consistent with the revenue yield cap form of control, we can estimate average prices by dividing expected revenue with total forecast energy consumed (MWh) in the ACT to determine the movement in overall prices. In the case of ActewAGL's transmission network, we also estimated average prices using this method but the energy is based on the forecast for NSW by AEMO.[23] For presentation purposes, the prices are scaled so that the price

[23] This approach is further discussed in the AER's draft determination for TransGrid, see AER, *TransGrid transmission determination 2015–16 to 2017–18*, November 2014, Attachment 1.

index begins at 1.0 in 2013–14. The index provides a simple overall measure of the relative movement in expected distribution and transmission prices over the 2014–19 period.

Figure 1.5 AER's draft decision and ActewAGL's proposed indicative price paths – distribution[24] (nominal price index)

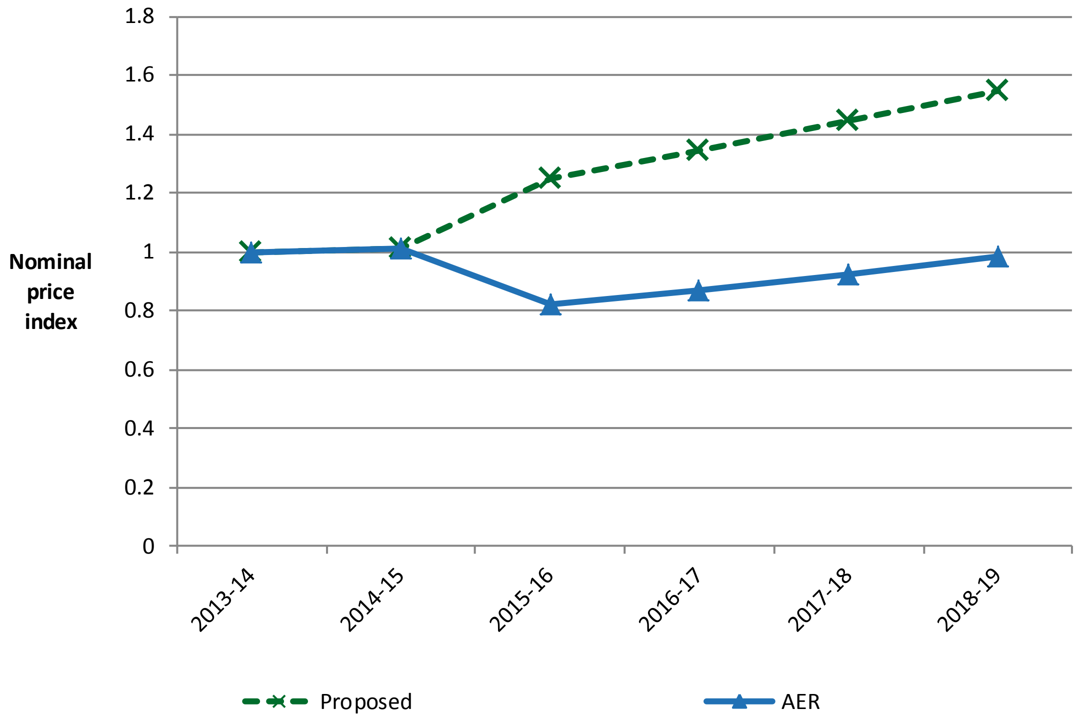


Source: AER analysis.

Notes: The nominal price index is calculated by the AER based on the revenue yield calculations submitted by ActewAGL in its distribution PTRM, and (where relevant) adjusting for the change in overall revenue and energy delivered forecasts substituted by the AER.

24 As identified in the AER's transitional determination, under the revenue yield cap form of control applying to ActewAGL's distribution network, ActewAGL will need to apply an X factor of 19.59 per cent for 2014–15 in its control mechanism equation. This real decrease in average distribution charges reflects the transfer of previously classified distribution charges to transmission charges (14.75 per cent) and other distribution cost reductions (4.84 per cent).

Figure 1.6 AER's draft decision and ActewAGL's proposed indicative price paths – transmission (nominal price index)



Source: AER analysis.
Notes: The nominal price index is calculated by the AER based on overall revenue and the (state wide) transmission network energy forecasts used for TransGrid (the NSW/ACT transmission network service provider).

We estimate that our draft decision on ActewAGL's annual expected revenue will result in a decrease to average distribution charges by about 6.5 per cent per annum over the 2014–19 period in nominal terms.[25] Our transitional determination resulted in an expected reduction in distribution charges of about 17.6 per cent in 2014–15. We estimate that our draft decision will further reduce distribution charges by another 27.0 per cent in 2015–16, followed by increases of about 4.0 per cent per annum from 2016–17 to 2018–19. This compares to the nominal average increase of approximately 2.4 per cent per annum proposed by ActewAGL over the 2014–19 period.

[25] This amount includes a forecast inflation rate of 2.5 per cent per annum. In real terms we estimate average distribution charges to decline by 8.0 per cent per annum, compared to a decrease of 0.7 per cent per annum proposed by ActewAGL.

Table 1.10 and Table 1.11 display the comparison of the price impacts of ActewAGL's proposal and our draft decision revenue allowance for its distribution and transmission networks respectively.

Table 1.10 Comparison of revenue and price impacts of ActewAGL's proposal and AER's draft decision – distribution

	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19
ActewAGL proposal						
Revenue ($m, nominal)[a]	180.5	145.2	170.2	179.2	188.5	197.0
Price path (nominal index)	1.00	0.82	0.97	1.01	1.05	1.09
Revenue (change %)		–19.6%	17.3%	5.3%	5.2%	4.5%
Price path (change %)		–17.6%	17.6%	4.1%	4.1%	4.1%
AER draft decision						
Revenue ($m, nominal)	180.5	151.1	110.3	115.8	122.2	128.8
Price path (nominal index)	1.00	0.82	0.60	0.63	0.65	0.68
Revenue (change %)		–16.2%	–27.0%	5.0%	5.5%	5.4%
Price path (change %)		–17.6%	–27.0%	4.0%	4.0%	4.0%

Source: ActewAGL, *Regulatory proposal*, July 2014, Attachment B2.
AER analysis.

Table 1.11 Comparison of revenue and price impacts of ActewAGL's proposal and AER's draft decision – transmission

	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19
ActewAGL proposal						
Revenue ($m, nominal)	28.1	28.1	34.9	37.7	40.6	43.8
Price path (nominal index)	1.00	1.01	1.25	1.34	1.44	1.55
Revenue (change %)		0.1%	24.3%	7.9%	7.9%	7.9%
Price path (change %)		1.4%	23.4%	7.4%	7.4%	7.4%
AER draft decision						
Revenue ($m, nominal)	28.1	28.1	22.9	24.4	26.0	27.8
Price path (nominal index)	1.00	1.01	0.82	0.87	0.93	0.98
Revenue (change %)		0.1%	–18.4%	6.6%	6.6%	6.6%
Price path (change %)		1.4%	–19.0%	6.1%	6.1%	6.1%

Source: ActewAGL, *Regulatory proposal*, July 2014, Attachment B5.
AER analysis.

Distribution charges represent approximately 35.2 per cent on average of ActewAGL's typical customer's annual electricity bill.[26] We expect that our draft decision, other things being equal, will reduce the average annual electricity bills for residential customers in ActewAGL's network. This is because we estimate that our draft decision will result in lower distribution charges on average over the 2014–19 period compared to ActewAGL's proposal as discussed above. If the lower distribution charges from our transitional determination were passed through to customers, we estimate the average annual electricity bill for ActewAGL's residential customers could be expected to reduce by about $17 or 0.8 per cent ($ nominal) in 2014–15. If the distribution charges from our draft decision are passed through to customers, we would expect the average annual electricity bill for residential customers to reduce by a further $182 or 9.4 per cent in 2015–16. This would be followed by increases of about $21 or 1.2 per cent ($ nominal) per annum from 2016–17 to 2018–19. In comparison, if we accepted ActewAGL's proposal, the average annual electricity bill for residential customers would increase by approximately $55 or 2.7 per cent ($ nominal) per annum over the 2015–19 regulatory control period.

Our estimated potential impact is based on the typical annual electricity usage of 8000 kWh per annum for a residential customer in the ACT.[27] Therefore customers with different usage will experience different changes in their bills. We also note that there are other factors, such as transmission network costs, wholesale and retail costs, which affect electricity bills.

Similarly, for an average small business customer in the ACT that uses approximately 10 MWh of electricity per annum, our draft decision for ActewAGL is expected to lead to lower average annual electricity bills. We estimate that if the lower distribution charges arising from our transitional determination were passed through to customers, the average annual electricity bill for small business customers in ActewAGL's network could be expected to reduce by about $25 or 0.8 per cent ($ nominal) in 2014–15. If the lower distribution charges from our draft decision are passed through to customers, we would expect the average annual electricity bill for small business customers to reduce by a further $273 or 9.4 per cent in 2015–16. This would be followed by increases of about $31 or 1.2 per cent ($ nominal) per annum from 2016–17 to 2018–19. In comparison, if we accepted ActewAGL's proposal, the average annual electricity bill for small business customers would increase by approximately $82 or 2.7per cent ($ nominal) per annum over the 2015–19 regulatory control period.

Table 1.12 shows the estimated average annual impact of our draft decision for ActewAGL's distribution network over the 2014–19 period on the average residential and small business customers' annual electricity bills.

Our draft decision revenues for ActewAGL's transmission network make up a relatively small proportion of the overall transmission revenues applicable to NSW and ACT. TransGrid is the main transmission network service provider in NSW and ACT, and we are setting its revenue requirements concurrent with this process. ActewAGL collects its transmission revenues from TransGrid, in its role as coordinating TNSP for NSW/ACT. In estimating the indicative impact of our draft decision on transmission charges, we include ActewAGL's transmission revenues with TransGrid's revenues.[28] We discuss the overall transmission price impact in our draft decision for TransGrid, and so this is not discussed further here.

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26 ActewAGL, *Regulatory proposal*, July 2014, Attachment A3.
27 ICRC, *Final report-Standing offer electricity prices from 1 July 2014*, p. 60.
28 We also include Ausgrid's and Directlink's transmission revenues–they operate transmission assets in NSW.

Table 1.12 Estimated impact of ActewAGL's proposal and AER's draft decision on annual electricity bills for the 2014–19 period ($ nominal)

	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19
ActewAGL proposal						
Residential annual bill[a]	1959.0	1942	2061	2093	2127	2161
Annual change		–17 (–0.8%)	118 (6.1%)	32 (1.6%)	33 (1.6%)	35 (1.6%)
Small business annual bill[b]	2939.0	2914	3092	3140	3190	3243
Annual change		–25 (–0.8%)	178 (6.1%)	48 (1.6%)	50 (1.6%)	52 (1.6%)
AER draft decision						
Residential annual bill[a]	1959.0	1942	1761	1780	1801	1823
Annual change		–17 (–0.8%)	–182 (–9.4%)	20 (1.1%)	21 (1.2%)	21 (1.2%)
Small business annual bill[b]	2939.0	2914	2641	2671	2702	2734
Annual charge		–25 (–0.8%)	–273 (–9.4%)	30 (1.1%)	31 (1.2%)	32 (1.2%)

Source: AER analysis; ICRC, *Final report-Standing offer electricity prices from 1 July 2014*, pp. 60–61.
(a) For a typical consumption of 8000 kWh per year during the period 1 July 2013 to 30 June 2014.
(b) For a typical consumption of 10000 kWh per year during the period 1 July 2013 to 30 June 2014.

1.4.3 Shared assets

Service providers, such as ActewAGL, may use assets to provide both standard control services we regulate and unregulated services. These assets are called 'shared assets'.[29] Of the unregulated revenues a service provider earns from shared assets, 10 per cent will be used to reduce the service provider's prices for standard control services.[30] However, price reductions are subject to a materiality threshold. Unregulated use of shared assets is material when a service provider's unregulated revenues from shared assets in a specific regulatory year are expected to be greater than 1 per cent of its total expected revenue for that regulatory year.[31]

ActewAGL submitted that its shared asset unregulated revenues are forecast to be zero in each regulatory year of the 2014–19 period.[32] We asked ActewAGL to explain why it expected to receive no unregulated revenues. In response, ActewAGL submitted that it does not earn revenues from use of its electricity poles for telecommunications services provided by third parties.[33] ActewAGL stated that this is, in part, because contractual arrangements prohibit it from charging for this use.

We note that unregulated revenues from shared assets may in future become material. We will monitor ActewAGL's shared asset unregulated revenues and, if necessary, determine our own forecasts for future regulatory control periods.

29 NER, cl 6.4.4.
30 AER, *Shared asset guideline*, November 2013.
31 AER, *Shared asset guideline*, November 2013, p. 8.
32 ActewAGL, *Reset RIN*, July 2014, template 7.4.
33 ActewAGL, *Email to AER*, 3 October 2014.